A New *Favartia (Murexiella)* from the Panamic Province (Gastropoda: Muricidae) and Designation of a Lectotype for *F. (M.) exigua* (Broderip, 1833)

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ABSTRACT

A new species of *Favartia (Murexiella)* is described from the eastern Pacific Ocean and compared with similar species *F. (M.) exigua* (Broderip, 1833) and *F. (M.) lappa* (Broderip, 1833). *Favartia venustula* Poorman, 1983, is found to be a junior synonym of *F. (M.) exigua*, and a lectotype is designated for *F. (M.) exigua*

Key words eastern Pacific, new species, Costa Rica, Ecuador, México, Panamá.

INTRODUCTION

Over ten years ago, Carol Skoglund of Phoenix, Arizona, brought to the Marine Invertebrate Department of the San Diego Natural History Museum several specimens of a species of *Favartia* for identification. Anthony D'Attilio, then Acting Curator, and the authors examined the specimens, noting that they were similar to *F. exigua* (Broderip, 1833). But, at the time, no type or comparative material was available to us.

Since then, we have examined twenty-two specimens of this species from the Hertz, Kaiser, Koch, Shasky and Skoglund collections. We studied the type material of the three more similar species, *F.(M.) exigua*, *F.(M.) radicata* (Hinds, 1844), junior synonym of *F. (M.) lappa* (Broderip, 1833), and *F. (M.) venustula* Poorman, 1983, as well as comparative material of other eastern Pacific *Favartia (Murexiella)*. As a result, we determined that the specimens belong to an undescribed species.

The following abbreviations for institutions are used in the text: AMNH, American Museum of Natural History; BMNH, The Natural History Museum, London; SBMNH, Santa Barbara Museum of Natural History; SDNHM, San Diego Natural History Museum; USNM, National Museum of Natural History, Smithsonian Institution.

SYSTEMATICS

Family Muricidae Rafinesque, 1815
Subfamily Muricopsinae Radwin and D'Attilio, 1971
Genus *Favartia* Jousseaume, 1880
Subgenus *Murexiella* Clench and Pérez-Farfante, 1945
Favartia (Murexiella) paulskoglundi new species
(Figures 1–5)

Deseription: Shell small, up to 17.1 mm length × 11.2 mm width, biconic, spire elongate. Protoconch of three pale tan, pustulose turbinate whorls, buttressed on last whorl. Teleoconch of five whorls; suture indistinct; shoulder sloping; six or seven thickened varices on body whorl, eight or nine on penultimate whorl. Leading edge of varix foliate forming short, straight, open spines at periphery, spines occasionally slightly recurved. Aperture ovate, lip edge crenulate, lirate within reflecting spiral cords. Inner lip erect along entire length, smooth within; anal sulcus weakly defined. Siphonal canal of moderate length, straight, narrowly open to right, weakly recurved distally with two to four well-preserved canal terminations. Spiral sculpture of two strong cords on first three teleoconch whorls: penultimate whorl with two strong cords and a minor cord between, anterior to these are two additional, minor cords; shoulder with two or three minor cords. Body whorl with five strong major cords, interspaces each with a minor cord; gap between major cords and canal; two or three major cords on canal. Shoulder of body whorl with two to four minor cords. Entire shell surface lamellose, forming webbing between cord terminations. All major cords divided along their length by four incised lines. Operculum muricopsine, unguiculate, annulate centrally with basal nucleus. Shell color cream. Orange-brown flush on varices, spine terminations, and occasionally in intervarical area.

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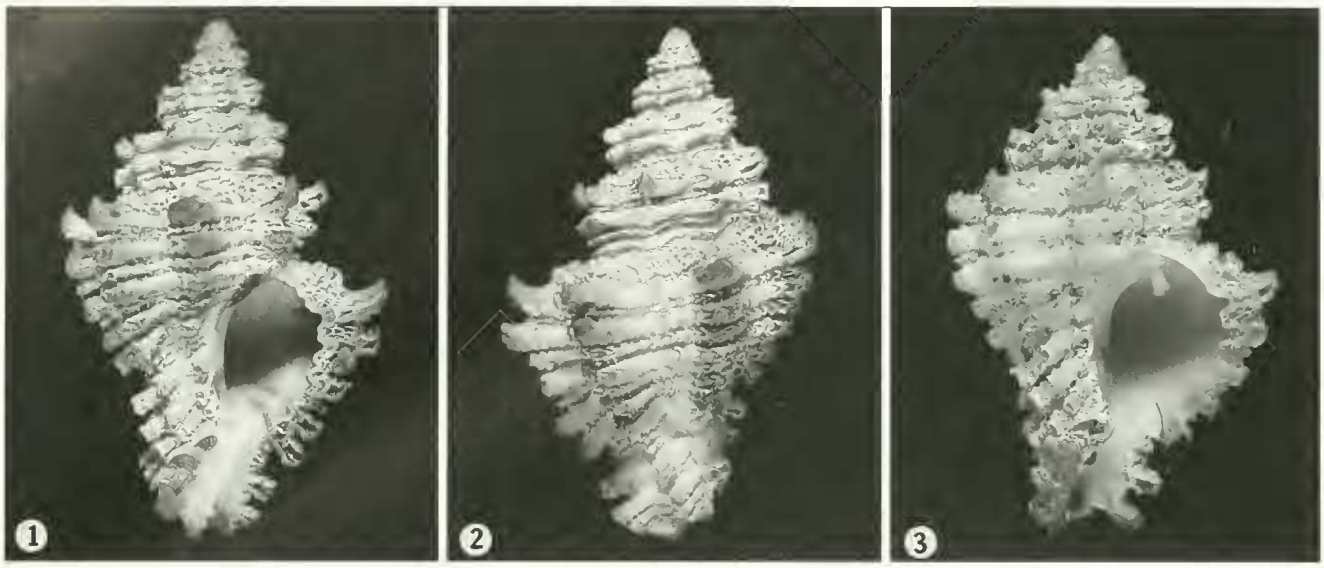


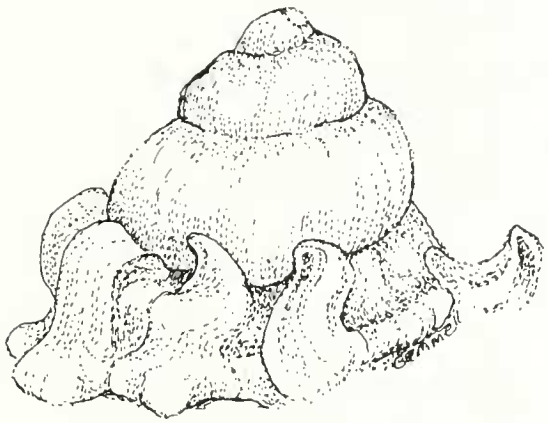
Figures 1–3. *Favartia (Murexiella) paulskoglundi* new species. Holotype, SDNHM 78066, 17.1×11.2 mm, Pedro Gonzales, Islas Las Perlas, Panamá, in 5.5 m. **1.** Apertural view; **2.** Dorsal view; **3.** Paratype A, USNM 880267, 8.5×5.1 mm, Isla la Plata, Ecuador.

Type material: Holotype: SDNHM 78066, 17.1×11.2 mm, type locality, R. Hubert coll., *ex* D'Attilio Collection, October 1971; Paratypes: Paratype A, USNM 8800267, 8.0×5.1 mm, Isla la Plata, Ecuador, 1°16′S, 81°05′10″W, D. R. Shasky coll., June 1979; Paratype B, Shasky Collection, 15.5×9.6 mm, same as Paratype A; Paratype C, SBMNH 144458, 10.4×5.9 mm, off Isla Viradores, Playas del Coco, Guanacaste, Costa Rica, 10°34′N, 85°34′W, dredged 9–15 m, R. Koch coll., 2–4 April 1986; Paratype D, Koch Collection, 10.2×6.0, same as Paratype C; Paratype E, AMNH 290728, 11.5×7.3 mm, S of Isla Chitre, Islas las Perlas, Panamá, 8°36′N, 79°4′W, dredged 15–18 m, C. and P. Skoglund and R. and W. Koch coll., 15 April 1984; Paratype F, Skoglund Collection, 13.4×7.9 mm, same as Paratype E; Paratype G, Skoglund Collection, 12.2×7.8 mm, same as Paratype E; Paratype H, Skoglund Collection, 11.6×7.8 mm, same as Paratype E; Paratype I, Shasky Collection, 16.2×10.5 mm, Isla Venado, Panamá, 8°52′30″N, 79°39′30″W, J. McDaniel coll., 8 September 1979; Paratype J, Shasky Collection, 12.9×7.8 mm, N side of Isla Salango, Ecuador, 1°35′15″S, 80°52′52″W, D. R. Shasky coll., 15 September 1978; Paratype K, Koch Collection, 11.5×7.2 mm, Isla Negritos Adentro, Golfo de Nicoya, Costa Rica, 9°57′N, 84°52′W, dredged 12–27 m, C. and P. Skoglund and R. and W. Koch coll., 8 May 1982; Paratype L, Koch Collection, 11.6×7.0 mm, Bahías de Huatulco, Oaxaca, México, 15°40′N, 96°08′W, dredged 9–30 m, R. and W. Koch , 2–4 June 1991; Paratype M, Koch Collection, 15.5×9.6 mm, same as Paratype E, 16 April 1984; Paratypes N-P: N, 14.6×9.0 mm; Paratype O, 12.7×8.2 mm; P, 12.5×7.3 mm, data for all same as Paratype E; Paratype Q, Skoglund Collection 10.1×6.9 mm, off Isla Viradores Sur, Playas del Coco, Guanacaste, Costa Rica, 10°34′N, 85°34′W, dredged 9–18 m, C. and P. Skoglund coll., April 1986; Paratype R, Skoglund Collection 12.1×8.2 mm, off Isla Ranchería, Golfo de Chiriquí, Panamá, 7°35′N, 81°40′W, dredged 24–36 m, C. and P. Skoglund coll., March 1986; Paratype S, Hertz Collection, 10.5×7.3 mm, Islas Tres Marietas, Nayarit, México, 21°41′N, 105°36′W, diving in 13.7 m, K. L. Kaiser coll., 22 February 1995; Paratypes T-U, K. L. Kaiser Collection: T, 12.6×7.9 mm; U, 10.9×7.4 mm, Bahía John Huston, Bahía Banderas, Jalisco, México, 20°30.55′N, 105°21.11′W, 9 m, in sand under rocks, 2 January 1995, K. L. Kaiser coll.

Type locality: Pedro Gonzales, Islas las Perlas, Panamá, 8°25′N, 79°05′W, 5.5 m depth.

Distribution: *Favartia (Murexiella) paulskoglundi* is known to occur from Islas Tres Marietas, Nayarit, México, its most northern locality, with an intermittent distribution south to Isla Salango, Ecuador, in 5.5–36.0 m depth.

Discussion: The new species was compared with the three syntypes of *Favartia (Murexiella) exigua* (BMNH 19841227, Figures 6, 7). Vokes (1988) considered *F. (M) exigua* to be a valid species and referred to the illustration of the largest syntype figured in Vokes (1984, pl. 2, fig. 3), although she erroneously considered *F. (M.) radicata* as a synonym of *F. (M.) exigua* in the 1984 paper. We have selected the largest specimen (16.2×9.4 mm) of the syntype series of *F. (M.) exigua* as the lectotype. Two smaller specimens (12.6×7.5 mm and 10.8×6.8 mm) are chosen as paralectotypes. *Favartia (M.) paulskoglundi* differs from *F. (M.) exigua* in having an indistinct suture and sloping shoulder with thickened varices, whereas *F. (M.) exigua* has an impressed suture and somewhat excavated shoulder with sharply elevated varices. The new species has five strong major cords with one minor cord in each interspace, whereas *F. (M.) ex-*



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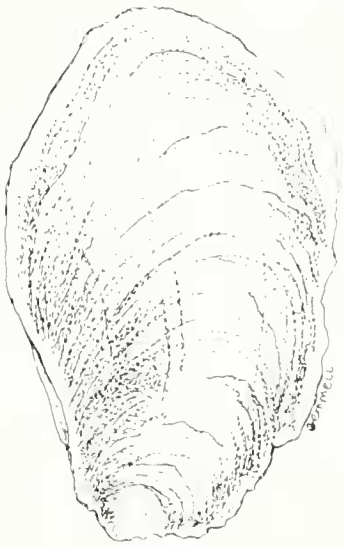

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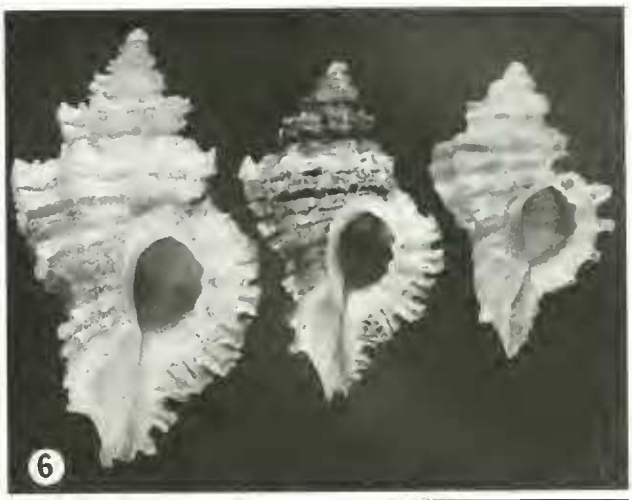
Figure 4, 5. *Favartia (Murexiella) paulskoglundi* new species. **4.** Paratype A, camera lucida drawing of protoconch (1.1. mm diameter). **5.** Paratype A, camera lucida drawing of operculum (3.5 mm length).



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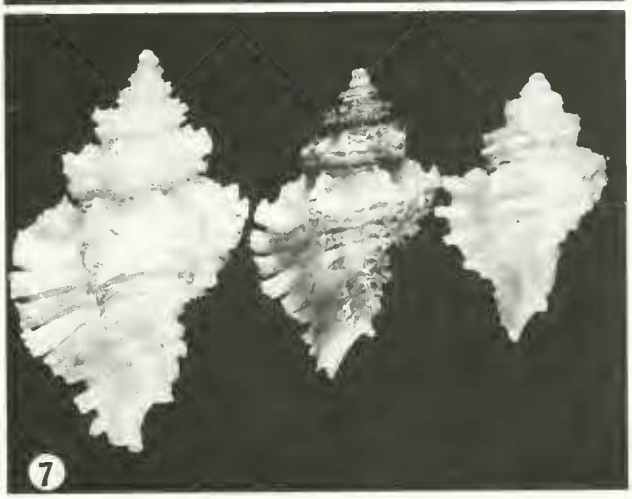

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Figures 6, 7. *Favartia (Murexiella) exigua* (Broderip, 1833), BMNH 1984122, syntype lot. Locality: "?Salango". **6.** Apertural view. **7.** Dorsal view. Largest specimen, 16.2×9.4 mm, selected as lectotype. Two smaller specimens, 12.6×7.5 mm and 10.8×6.8 mm, selected as paralectotypes. Specimens photographed with kind permission of the trustees of The Natural History Museum, London.

igua has five strong cords with no minor cords in the deeply-cut interspaces, the edges of the cords somewhat overlapping the interspaces.

Since Vokes (1970) stated that "the type of *M. lappa* is no longer to be found," the new species was compared with the holotype of *F. (M.) radicata* (Hinds, 1844) (BMNH 1907.10.28.136, Figure 8), a junior synonym of *F. (M.) lappa* (Broderip, 1833) (Radwin and D'Attilio, 1976; Fair, 1976) and comparative material of *F. (M.) lappa* in private collections. *Favartia (M.) paulskoglundi* differs from *F. (M.) lappa* in the number of spiral cords on the body whorl, five major cords with strong minor cords between on the new species, and five major cords with two strong minor cords on the shoulder and no minor cords on the body whorl on *F. (M.) lappa*. In *F. (M.) paulskoglundi* there are six to seven varices which do not obscure the indistinct suture, whereas in *F. (M.) lappa* the five varices project above and obscure the suture. The type species of *F. (M.) radicata* had no remaining protoconch.

Comparisons between the new species and *F. (M.) venustula* (holotype, SDNHM 81610), show that *F. (M.) venustula* and *F. (M.) exigua* are conspecific. Both species are of comparable size with similar protoconchs (*F. (M.) exigua* with slightly more than 2.5 smooth, convex whorls and *F. (M.) venustula* with 3 smooth, convex

Figure 8. *Favartia (Murexiella) radicata* (Hinds, 1844). Holotype, BMNH 1907.10.28.136, 19.8×11.7 mm. Apertural view. From: ". . .San Blas, west coast of Mexico. From 11 fms." Junior synonym of *Favartia (Murexiella) lappa* (Broderip, 1833). Specimen photographed with kind permission of the Trustees of The Natural History Museum, London.

whorls); both have teleoconchs with 5 whorls and 7 sharp varices crossing the suture to the preceding whorl. Both species have 2 spiral cords on the spire, 5 flattened spiral cords on the body whorl with incised threads along their length and deep interspaces lacking minor cords. The oval aperture with shallow anal sulcus and moderately long canal narrowly opened distally are characters of both species. Therefore *F. (M.) venustula* is considered to be a junior synonym of *F. (M.) exigua.*

Etymology: The species is named for the late Paul Skoglund of Phoenix, Arizona, who actively participated in the collection of deep-water Panamic species and designed a tube-pulley arrangement for small boat dredging.

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Robert Koch, Donald R. Shasky and Carol Skoglund made specimens available for study and each donated paratypes. Kirstie Kaiser also lent specimens for study. The Natural History Museum, London, sent type material on loan. Henry W. Chaney (SBMNH) was helpful in providing coordinate information. David K. Mulliner photographed all the type specimens and Joyce Gemmell made camera lucida drawings of details of the new species. The San Diego Natural History Museum made their facilities available to us. Emily H. Vokes reviewed a draft of the manuscript and made helpful suggestions. To all of them we express our gratitude.

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